AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A multiplex communication system comprising:

a plurality of networks each of which includes a plurality of nodes;

a data relay unit for relaying data frames among the networks; and

communication lines connecting the respective networks and the data relay unit,

wherein each of the ~~network shifts~~ networks shifts into a sleep mode if an event does not occur for a predetermined time ~~in the network~~ therein,

wherein each of the nodes ~~sends to the data relay unit a request to send to send a predetermined response in response to~~ is for requesting a predetermined response from the data relay unit upon occurrence of an event in the node~~, and thereafter sends~~ and is further for sending a notice of the occurrence of the event ~~in response to~~ upon receiving the predetermined response from the data relay unit, and

wherein the data relay unit comprises:

activation request sending means for sending to at least a destination network~~of the networks~~, which includes a destination node for receiving ~~of~~ the notice of the occurrence of the event, an activation request for requesting the destination network to be activated ~~in response to the request to send~~ when the data relay unit receives a node request for the predetermined response;

activation state determination means for determining whether the destination network is activated; and

activation state answering means for sending, when the destination network is activated, the predetermined response to a sender network ~~of the networks which includes~~,the sender network including the node that sends the ~~request-to-send~~ node request for the predetermined response ~~when the destination network is activated~~.

2. (Currently Amended) A multiplex communication system as in claim 1, wherein:

each of the nodes ~~sends as the request-to-send~~ is for sending a data frame which includes a request that the sender network is activated; and

the activation request sending means ~~sends~~ is for sending the activation request to another of the networks other than the sender network.

3. (Currently Amended) A multiplex communication system as in claim 1, wherein:

each of the nodes ~~sends as the request-to-send~~ is for requesting a predetermined response from the data relay unit by sending a data frame which includes a request that the sender network is activated, if the sender network is in the sleep mode when the event occurs; and

the activation request sending means sends the activation request to another of the networks other than the sender network, if it receives the data frame which includes the request that the sender network is activated.

4. (Currently Amended) A method for sending an event frame in a multiplex communication system having a plurality of networks and a data relay unit, each network having at least one node, the method comprising ~~the steps of~~:

sending from a sender node in one of the networks to the data relay unit a ~~request-to-send~~ request for the data relay unit to send a predetermined response to the sender node, the sender node being a sender of an event frame indicative of occurrence of an event;

sending from the data relay unit to at least a destination node in another of the networks an activation request for requesting the destination node to be activated ~~in response to the request-to-send~~, the destination node being a destination of the event frame;

determining in the data relay unit whether the destination node is activated;

sending from the data relay unit to the sender node the predetermined response if the destination node is activated; and

sending the event frame from the sender node to the destination node through the data relay unit after receiving the predetermined response from the data relay unit.

5. (New) A multiplex communication system comprising:

at least a first network and a second network each including at least one node;

a data relay unit in communication with both the first network and the second network;

a sender node in the first network for requesting the data relay unit to send a predetermined response to the sender node upon activation of at least a destination node in the second network, and for sending an event frame, which is indicative of an occurrence of an event at the sender node, to the destination node in the second network through the data relay unit when the sender node receives the predetermined response from the data relay unit.

6. (New) The multiplex communication system of claim 5, further comprising one or more additional networks in addition to the first and second networks, wherein

the predetermined response from the data relay unit comprises network activation frames sequentially received from the second network and the one or more additional networks.

7. (New) The multiplex communication system of claim 5, further comprising one or more additional networks in addition to the first and second networks, wherein

the predetermined response from the data relay unit comprises a network activation frame received only from the second network in which the destination node is located.

8. (New) The multiplex communication system of claim 5, wherein

the sender node in the first network is for requesting the data relay unit to send a predetermined response to the sender node upon activation of only a destination node in the second network if the first network is active at the time of the occurrence of the event.